Work Ord	ler ID	100935			*100	)935*							Page 1
May-01-13 7:1	6:57 AM	<b>D</b> 3027	7.										
Item ID: Revision ID:	D3027-7			A	Accept	*N900	040	100	<b>)</b> *	Setup	Start	*N	S1*
Item Name:	Clip	REV. W									Stop	*N	S2*
Start Date: Required Date	4/30/13 e: 4/30/13	<b>Start Qty:</b> 12.00 <b>Req'd Qty:</b> 12.00		*12* *12*		Cust Item l Customer:	D:						
Reference:											•		
Approvals:	Process	s Plan: MLD	Date	13-05-03	Tooling:	D	ate:			Run	Start Stop	*N	R1*
	QC:		Date		<b>SPC (Y/N):</b>	D	ate:				жор	*N	R2*
Sequence ID/ Work Center l	ID	Operation Description			Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	t Rej Qty		Reject Number	Insp. Stamp
Draw Nbr		Revision Nbr									, , , , , ,		
D3027		Rev B				•	,						
*100 *100*		FLOW WATER JET			0.00				12	0			Jm13-07-20
Waterjet FLOW CNC Water ZO24 - 05		Dwg Rev: Prog Rev:	RAIN DI	RECTION*****	0.00				·				
		2-Deburr if n	ecessary										
110		QC2- Inspect parts off ma	achine F	AI/FAIB ·	0.00				,,				7
*110* QC Quality Control		Memo			0.00		٠		12_				Jm3-07-25

NCR:	Yes	/ No				WORK ORDER NON-C	100	VFORM	ANCE / UP	DATE		•			
											(	QA Closed:	Da	te:	
Work Orde	er.					DISPOSITION				AGAINST DI	ΕP	ARTMENT/	PROCESS		
Part N	۱o.					Rework Scrap Use-as-is Work Order Update		Therm	Skid-tube  Machining  noforming  Large Fab	Crosstube Small Fab Finishing Composite			Water Jet d. Eng. Coor. e/Packaging Supplier		Engineering Quality Other
Root					Descri	ption of work order update		Initial	Act	tion		Sign &	· · · · · · · · · · · · · · · · · · ·		
Cause		Date	Step	Qty	C	or Non-conformance	Ch	nief Eng	Desc	ription		Date	Verification	n	QC Inspector
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved															
						·	AUL	T CATE	GORY		_				
Landi		1				General		]:_		Г	_	0			Drassura /50700 d
		Bending Centre No Cracks Crushed/G Cuffs Heat Trea	Crimped.	ntric to	o/s	Bend BOM/Route Broken/Damaged Burrs Contamination Countersink		1	on Incomplete ions Incomplete/ enance	Unclear		Ovalized Over/Under Part Incorred Part Lost/Mi Part Moved Positioned V	ct issing		Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled
		Inspection	n Strip in	Tube		Cut Too Short		Misread	i			Power Loss/	Surge		Other

Offset

Out of Calibration
Out of Sequence

Outside Dimensions

DQA:

Date:

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Torque Waves in Extrusion

Drill Holes

Drawing

Finish Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

<b>Work Ordo</b> <i>May-01-13 7:16</i>		00935		*100	935*							Page 2
Item ID: Revision ID: Item Name:	D3027-7			Accept	*N900	<b>040</b>	100	)*	Setup	Start Stop	171	S1* S2*
Start Date: Required Date: Reference:	4/30/13 4/30/13	Start Qty: 12.00 Req'd Qty: 12.00	*12* *12*		Cust Item I Customer:	D:						
Approvals:	Process P	lan:	Date:	Tooling:	Da	ate:			Run	Start	*N	R1*
	QC:		Date:	SPC (Y/N):	Da	ate:				Stop	*N	R2*
Sequence ID/ Work Center II	D	Operation Description		Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accep Qty	t Re	•	Reject Number	Insp. Stamp
120		QC8- Inspect parts - seco	ond check	0.00				12				
*120* QC Quality Control		Memo		0.00 137.0	<b>)</b> 6							<u> </u>
130				0.00								13/03
*130*		NC BRAKE		0.00				12			.,	15(0)
Brake NC Brake NC		<b>Memo</b> Deburr if ne	cessary	0.00								
		Form as per	Dwg D3027									
140 *1 <b>4</b> 0*		QC5- Inspect part compl	eteness to step on W/O	0.00				úΩ	) ) 12	? <u>'</u> ØJ·9	. S	0AS 09 /
QC		Memo		0.00					/. J.	ع:ال	<u> </u>	×89

Quality Control

												DQA:	Dat	e: _	
NCR: \	/es	/ No				WORK ORDER NON-O	100	VFORM	MANCE / UP	DATE					
											QA	Closed:	Dat	e:	
Work Orde	or.					DISPOSITION				AGAINST D	EPAF	RTMENT/	PROCESS		
Work Orde	-1.					Rework	1		Skid-tube	Crosstube	٦		Water Jet	$\neg$	Engineering
Part N	J۸					Scrap	1		Machining	Small Fab	-	Proc	I. Eng. Coor.	$\dashv$	Quality
	• • •					Use-as-is	1		noforming	Finishing	1		e/Packaging	ᅥ	Other
NCR N	۱o.					Work Order Update	1		Large Fab	Composite	_	,	Supplier		
	•					· <u>-</u>	,		<u> </u>		_				<b></b>
Root					Descri	ption of work order update		nitial	Ac	tion	9	Sign &			
Cause		Date	Step	Qty	(	or Non-conformance	Ch	ief Eng	Desc	ription		Date	Verification	١	QC inspector
Doc/Data															
Equip/Tooling															
Operator							1								
Material															
Setup															
Other			ļ									ļ			
Process															
Supplier															
Training															:
Unapproved				<u> </u>											
					·		AUL	T CATE	GORY						
Landi		1			_	General		1		۳	_				1 .
		Bending			<u> </u>	Bend	<u>_</u>	Grain		<u> </u>	_	alized			Pressure/Forced
		Centre No	ot Concer	ntric to	O/S	BOM/Route	<u>_</u>	Hardwa				er/Under			Temperature/Cure
		Cracks				Broken/Damaged	<u></u>	i '	ion Incomplete	<u> </u>	-	rt Incorrec			Weld
]		Crushed/	Crimped		1	Burrs	1	Instruct	ions Incomplete/	Unclear	Pa	rt Lost/Mi	ssing	l	Wrong Stock Pulled

Maintenance

Out of Calibration
Out of Sequence

Outside Dimensions

Mislabeled

Misread

Offset

Part Moved

Positioned Wrong Power Loss/Surge

Other

Contamination

Countersink

Cut Too Short

Drill Holes

Drawing

Finish Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Cuffs

Heat Treat

Inspection Strip in Tube

Torque Waves in Extrusion

<b>Work Orde</b> May-01-13 7:16		0935		*100	935*					Page 3
Revision ID:	D3027-7			Accept	*N900	<b>04010</b>	<b>0*</b> s	etup Sta	l	NS1* NS2*
Start Date: Required Date: Reference:	4/30/13 4/30/13	Start Qty: 12.00 Req'd Qty: 12.00	*12* *12*		Cust Item I Customer:	ID:				
Approvals:		in:	Date:	Tooling: _ SPC (Y/N):		ate:ate:	R	tun Sta St	op *	NR1* NR2*
Sequence ID/ Work Center II 150 *150* HandFinish Hand Finishing	D	Operation Description Chemical Conversion Coa	at per QSI005 4.1	Set Up/ Run Hours 0.00	Tool ID	Tool # Plan Code	Accept Qty /2	Reject Qty	Rejec Num	_
*160 *160* QC Quality Control	_ 4	Memo		0.00 AS 0.00 16 9-8	13107/30		(H	2		
170 *170* Packaging		Identify as per dwg & Sto	ck Location: <u>5+0</u> 24	0.00			12		<del>-</del>	13-07-311

Packaging

									DQA:	Date:	
NCR: Yes	s / No				WORK ORDER NON-C	ONFOR	MANCE / UP		QA Closed:	Date:	
Work Order:					DISPOSITION			AGAINST DEI	PARTMENT	/PROCESS	
WORK Order.				· · · · · · · · · · · · · · · · · · ·	Rework		Skid-tube	Crosstube		Water Jet	Engineering
Part No.					Scrap		Machining	Small Fab	Pro	d. Eng. Coor.	Quality
					Use-as-is	Thern	noforming	Finishing	Rec/Sto	re/Packaging	Other
NCR No	•			<u>.</u>	Work Order Update		Large Fab	Composite		Supplier	
Root	1			Descri	tion of work order update	Initial	Ac	tion	Sign &		
Cause	Date	Step	Qty	i	or Non-conformance	Chief Eng	1	ription	Date	Verification	QC Inspector
Doc/Data											
Equip/Tooling							Ì				
Operator											
Material											
Setup											
Other											
Process									Į.		
Supplier											
Training											
Unapproved		1	l						1		

ioveu	1 1 1				 	
•			FAU	LT CATEGORY		
Landing	Gear	General				
Γ	Bending	Bend		Gráin Gráin	Ovalized	Pressure/Forced
	Centre Not Concentric to O/S	BOM/Route	-	Hardware	Over/Under tolerance	Temperature/Cure
	Cracks	Broken/Damaged		Inspection Incomplete	Part Incorrect	Weld
	Crushed/Crimped	Burrs		Instructions Incomplete/Unclear	Part Lost/Missing	Wrong Stock Pulled
	Cuffs	Contamination		Maintenance	Part Moved	
Γ	Heat Treat	Countersink		Mislabeled	Positioned Wrong	
	Inspection Strip in Tube	Cut Too Short		Misread	Power Loss/Surge	Other
Γ	Ripples in Bend	Drill Holes		Offset		
	Torque Waves in Extrusion	Drawing		Out of Calibration		
	Turning Sequence	Finish		Out of Sequence		
	Wave/Twist in Tube	Folio		Outside Dimensions		

<b>Work Ord</b> <i>May-01-13 7:1</i>		100935		*100	1935*							Page	4
Item ID: Revision ID: Item Name:	D3027-7			Accept	*N900	<b>040</b>	100	)* s	Setup	Start Stop	171.	S1* S2*	
Start Date: Required Date Reference:	4/30/13 : 4/30/13	Start Qty: 12.00 Req'd Qty: 12.00	*12* *12*		Cust Item I Customer:	D:							
Approvals:	Process QC:	s Plan:	Date:	Tooling: SPC (Y/N):		ate:		F	Run	Start Stop	7	R1* R2*	
Sequence ID/ Work Center I	(D	Operation Description QC21- Final Inspection -	Work Order Release	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Rej Qty	y	Reject Number	Insp. Stamp	
*180* QC Quality Control		Мето		0.00				ML	<b>ブ</b>	<u>13-0</u> 2	7-31 MLJ	13-07	-3

												DQA:	Dat	e: _	
NCR:	Yes	/ No				WORK ORDER NON-O	100	NFORM	/ANCE / UP	DATE		•			
												QA Closed:	Dat	e:	· · · · · · · · · · · · · · · · · · ·
Mork Ord	o.r.				- "	DISPOSITION				AGAIN	IST DE	PARTMENT	PROCESS		
Work Ord	er.				· · · · · · · · · · · · · · · · · · ·	Rework	1		Skid-tube	Crosstu	<sub>the</sub> []		Water Jet		Engineering
Part N	M۸					Scrap	1		Machining	Small F	<b>}</b>	Pro	d. Eng. Coor.	$\dashv$	Quality
!						Use-as-is	1		noforming	Finish	-		e/Packaging		Other
NCR I	No.					Work Order Update	1		Large Fab	Compos			Supplier		
	,						_								
Root					Descri	ption of work order update	1	nitial	A	ction		Sign &			
Cause		Date	Step	Qty	(	or Non-conformance	Ch	ief Eng	Des	cription		Date	Verification	$\Box$	QC Inspector
Doc/Data							1								
Equip/Tooling						,									
Operator															
Material															
Setup							ļ								
Other	<u> </u>														
Process											•				
Supplier															
Training	<u> </u>												1		
Unapproved	<u> </u>	L			İ					····					
							AUI	LT CATE	GORY						
Landi	ng (	7			_	General		Grain				Ovalized	1	<u> </u>	Pressure/Forced
	<u> </u>	Bending			~ <del> </del>	Bend BOM/Route	$\vdash$	Hardwa			-	Ovanzeu Over/Under	toloranco	<u> </u>	Temperature/Cure
	<u> </u>	Centre N	ot Conce	ntric to	<sup>0/5</sup>  -	<b>-1</b>	-	4			<u> </u>	Part Incorre		$\vdash$	Weld
	<u> </u>	Cracks	/c.:		<u> </u>	Broken/Damaged	-	4 `	ion Incomplete	/i incloar	-	Part Lost/M		┝	Wrong Stock Pulled
	$\vdash$	Crushed/	crimped		<u> </u>	Burrs	-	Mainte	tions Incomplete	:/ Officieal	-	Part Moved	_	L	JANIONS STOCK FAMEL
	$\vdash$	Cuffs	-4		-	Contamination Countersink	-	Mislabe			$\vdash$	Positioned \			
	<u> </u>	Heat Trea		Tubo	-	Cut Too Short	$\vdash$	Misread			-	Power Loss,	=	Γ_	Other
1	I .	Turchacrio	n aaib iii	Tube		Tear 100 311011	Щ.	7 . A. 1. 21 . C. 91	4		i	1, 0110, 5033/	24.90		1

Offset

Out of Calibration

Out of Sequence

Outside Dimensions

Ripples in Bend

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drill Holes

Drawing

Finish

Folio

**Picklist Print** 

May-01-13 7:16:57 AM

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Work Order ID:

Parent Item Name:

100935

Parent Item:

**D3027-7** Clip

**Start Date:** 4/30/13

Required Date: 4/30/13

Page 1

**Start Qty: 12.00** 

Required Qty: 12.00

**Comments:** 

IPP C05.10.07Added forming step and Issue P/OKJ/JLM

IPP Rev'B Now on Waterlet 08-12-08 ILM Verified By E

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M2024T3S.050		Purchased	No			100	sf	202.1920	0.024	9.3 <del>9315</del> 84		 7.	3 ~ 3 ~
2024-T3 .050 sheet										0.5		<u></u>	115-04-65

 Location
 Loc Oty
 Loc Code

 MAT022
 202.192

 124643
 202.192

124643

												DQA:	Dat	te: _	
NCR:	Yes	/ No				WORK ORDER NON-C	O	NFORM	ANCE / UP	DATE		_			
		•									(	QA Closed:	Da	te:	
18/ l. O d						DISPOSITION				AGAINST DI	ΕP	ARTMENT/	PROCESS		
Work Ord	er:					Rework	1		Skid-tube	Crosstube	٦		Water Jet		Engineering
Part I	Vο					Scrap	1		Machining	Small Fab	1	Prod	d. Eng. Coor.	$\dashv$	Quality
						Use-as-is	1		noforming	Finishing	7		e/Packaging		Other
NCR I	No.					Work Order Update			Large Fab	Composite			Supplier		
											_				
Root				ļ		ption of work order update	1	nitial		tion	1	Sign &			
Cause		Date	Step	Qty	(	or Non-conformance	Ch	ief Eng	Desc	ription	$\downarrow$	Date	Verificatio	n	QC Inspector
Doc/Data											1				
Equip/Tooling															
Operator	Ш						İ								
Material					i										
Setup															
Other											١				
Process							1				١				
Supplier	$oxed{oxed}$	:							1		ļ	·			
Training															
Unapproved			]	<u> </u>			<u> </u>	*	<u> </u>		$\bot$				
							AUL	T CATE	GORY						
Landi	ing (				<b></b>	General		1		_	_				1_ /
	L	Bending			<u> </u>	Bend	$\vdash$	Grain		-		Ovalized		$\vdash$	Pressure/Forced
1		Centre N	ot Conce	ntric to	o/s  _	BOM/Route	$\vdash$	Hardwa		-	$\dashv$	Over/Under		-	Temperature/Cure
		Cracks			<u> </u>	Broken/Damaged	$\vdash$	4	ion Incomplete	<u> </u>		Part Incorred		-	Weld
	<u>_</u>	Crushed/	Crimped		<u> </u>	Burrs	<u></u>	-	tions Incomplete/	'Unclear	-	Part Lost/Mi	issing	<u></u>	Wrong Stock Pulled
	<u></u>	Cuffs			<u> </u>	Contamination	$\vdash$	Mainte		<u> </u>		Part Moved			
		Heat Trea	at			Countersink	$\vdash$	Mislabe		<u> </u>	-	Positioned V	_	_	7 .
1		Inspectio	n Strip in	Tube		Cut Too Short	1	Misread	t		ļ	Power Loss/	'Surge	1	Other

Offset

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Torque Waves in Extrusion

Drill Holes

Drawing

Finish

Folio

DART AEROSPACE LTD	Work Order:	100935
Description: Clip	Part Number:	D3027-7
Inspection Dwg: D3027 Rev: B		Page 1 of 1

## FIRST ARTICLE INSPECTION CHECKLIST

X First Article Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
1.850	+/-0.010	1.852"	_		V	Themos
1.870	+/-0.010	1.871"	_		V	
R0.13	+/-0.030	0.13"			RG	·
1						
1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-						
					·	

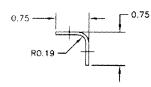
Measured by: JM	Audited by: SM	Prototype Approval:	N/A
Date: 3-07-25	Date: 13-126	Date:	N/A

	Rev	Date	Change	Revised by	Approved
ĺ	Α	05.04.26	New Issue P/O D350-689-013	KJ/JLM	1
-:[	В	06.03.09	Dwg Rev upated; Dimensions revised	KJ/JLM ZA	adl

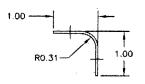


DESIG	RF	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
CHEC	KED	APPROVED	DRAWING NO. 1	REV. B		
	M	·Ht	D3027 SHEE	T 1 OF 2		
DATE			TITLE	SCALE		
 05.0	9.20		CLIP	1:2		
A		01.05.18	NEW ISSUE			
В		05.09.20	REMOVE HOLES FROM -7			

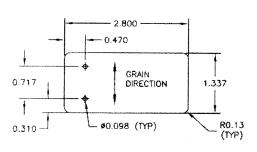




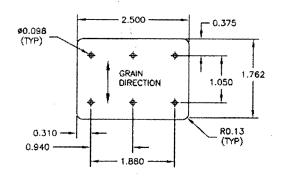
D3027-1 BEND DETAIL



D3027-3 BEND DETAIL



03027-1 FLAT PATTERN (0.063" SHEET)



D3027-3 FLAT PATTERN (0.050" SHEET)

- 1) BREAK ALL UNMARKED SHARP CORNER 0.010 TO 0.020
- 2) MATERIAL: 2024-T3 (QQ-A-250/4)
- 3) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

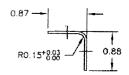
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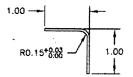


	DESIGN RF	DRAWN BY		OSPACE LTD ONTARIO, CANADA
	CHECKED	APPROVED #	DRAWING NO. D3027	REV. B SHEET 2 OF 2
ŀ	DATE		TITLE	SCALE
	05.09.20		CLIP	1:2

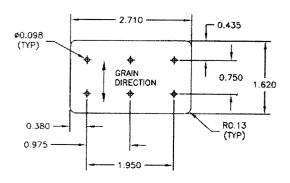




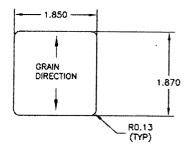
D3027-5 BEND DETAIL



D3027-7 BEND DETAIL



0.050" SHEET)



D3027-7 FLAT PATTERN (0.050" SHEET)

## NOTES:

- 1) BREAK ALL UNMARKED SHARP CORNER 0.010 TO 0.020
- 2) MATERIAL: 2024-T3 (QQ-A-250/4)
- 3) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

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